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PROCEEDINGS OF SPIE

Pacific-Rim Laser Damage 2018

Optical Materials for High-Power Lasers

Takahisa Jitsuno
Jianda Shao
Wolfgang Rudolph
Editors

24–27 April 2018
Yokohama, Japan

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Introduction

As a part of Optics and Photonics International Congress (OPIC), we organized the 8th Pacific-rim Laser Damage conference 2018 (PLD 2018), in Yokohama, Japan, 24–27 April 2018. This conference was co-sponsored by SPIE and Shanghai Institute of Optics and Fine Mechanics (SIOM) in China. The PLD conference was started in 2009, by Prof. Jianda Shao, at SIOM, as a satellite meeting of the SPIE Laser Damage conference in Boulder, Colorado (United States), a conference with a 48-year history. The PLD meeting is held bi-yearly in Shanghai, China, and PLD 2014, PLD 2016, and PLD 2018 were held in Yokohama. At the first PLD conference, Dr. K. Sugioka of Riken served as the co-chair from Japan. I joined at the second meeting in 2011, in response to a request from Prof. J. Shao, and since the third meeting in 2013, I have acted as the co-chair of the conference. The fourth and sixth PLD meetings were held in Yokohama, in 2014 and 2016, as a part of the OPIC conference at the recommendation of Prof. J. Shao.

As with other PLD meetings, this conference was co-chaired by Prof. J. Shao and Prof. W. Rudolph. The international program committee of PLD 2018 had almost the same members as PLD 2017, and we also invited a member from Japan for the organizing committee.

Joint session with LIC, SLPC conferences

At this conference, we organized joint sessions with the Laser Ignition conference (LIC2018) and Smart Laser Process conference (SLPC2018) because these conferences have a common interest with the interaction of laser light and matter. The PLD, LIC, and SLPC conferences each nominated two invited talks, and we had two joint sessions on 25 April 2018.

Two of the invited talks from PLD were presented in the joint sessions. "Mechanisms of laser damage in optical components for PW-class laser systems," was reported by Stavros G. Demos, LLE, University of Rochester (United States) [10713-1]. "UV-induced aging leading to laser damage in the bulk of fused silica," was presented by Frank R. Wagner, Institute of Fresnel (France) [10713-2].

Oral and Invited talks

We had a total of ten sessions including the poster session. We selected ten invited talks according to the recommendations of program committee members. One of them was the plenary talk for PLD 2018 from SIOM, reporting on defect-free optics [10713-3]. This talk was planned as Prof. J. Shao's talk, but unfortunately, he could not attend the conference.

In the other seven invited talks, selected speakers from seven countries reported on the progress and results of their research.

Poster session

In the poster session, 14 reports were presented concerning resist removal, the fundamental process of metal processing, the semiconductor process, the non-linear crystal growth, and the anti-reflection nano-structure.

Contributions

40 papers were presented at the meeting. The ratio of international papers was 85%, and international attendance was 78% because of the small domestic population of research activity in Japan.

The contributed papers were from China (23), United States (2), Japan (6), France (2), Germany (2), and the United Kingdom, Russia, Turkey, Egypt, and Romania (1, each) respectively.

Conclusions

PLD 2018 was held as a part of the OPIC conferences in Yokohama, Japan. This system is very effective in supporting small international conferences, which is difficult to achieve alone. The Chairs wish to express deep thanks to the organizing members of OPIC and SPIE for the success of PLD 2018.

Takahisa Jitsuno